Claims

What is claimed is:

1. A method of inhibiting or treating a tumor or infectious lesion in a subject, comprising:

administering into or near a site of a tumor or infectious lesion in a subject an effective amount of an antigen presenting cell and an immunostimulatory cytokine or a nucleic acid encoding an immunostimulatory cytokine.

2. The method of claim 1, wherein the antigen presenting cell is a dendritic cell.

3. The method of claim 2, wherein the dendritic cell is selected from the group consisting of a CD34+-derived dendritic cell, a bone marrow-derived dendritic cell, a monocyte-derived dendritic cell, a splenocyte derived dendritic cell, a skin-derived dendritic cell, a follicular dendritic cell, and a germinal center dendritic cell.

4. The method of claim 1, wherein the dendritic cell is a CD34+-derived dendritic cell cultured in the presence of at least one factor selected from the group consisting of granulocyte colony stimulating factor, granulocyte macrophage colony stimulatory factor, tumor necrosis factor alpha, interleukin 4, the Flt-3 ligand, and the kit ligand.

5. The method of claim 1, wherein the antigen presenting cell is selected from a group consisting of a Langherhans' cell, an interdigitating cell, a B cell, and a macrophage.

6. The method of claim 1, wherein the immunostimulatory cytokine is selected from the group consisting of interleukin-1α, interleukin-1β, interleukin-2, interleukin-3, interleukin-4, interleukin-6, interleukin-8, interleukin-9, interleukin-10, interleukin-12, interleukin-18, interleukin-19, interleukin-20, interleukin-23,

interleukin-27, interleukin-1f3, interleukin-1f5, interleukin-1f6, interleukin-1f7, interleukin-1f8, interleukin-1f9, interleukin-1f10, interferon-α, interferon-β, interferon-γ, tumor necrosis factor α, transforming growth factor-β, granulocyte colony stimulating factor, macrophage colony stimulating factor, granulocyte-macrophage colony stimulating factor, the Flt-3 ligand, and the kit ligand.

7. The method of claim 1, wherein the expression vector is a viral vector.

8. The method of claim 2, wherein the expression vector is selected from the group consisting of an adenoviral vector, an adeno-associated viral vector, a retroviral vector, a lentiviral vector, a herpes viral vector, and a vaccinia viral vector.

9. The method of claim 1, wherein the subject has a tumor selected from the group consisting of melanoma, hepatoma, adenocarcinoma, colorectal cancer, basal cell cancer, oral cancer, nasopharyngeal cancer, laryngeal cancer, bladder cancer, head and neck cancer, renal cell cancer, pancreatic cancer, pulmonary cancer, cervical cancer, ovarian cancer, esophageal cancer, gastric cancer, prostate cancer, testicular cancer, and breast cancer.

10. The method of claim 1, wherein the size of the tumor or infectious lesion is decreased.

11. The method of claim 1, wherein said administering step comprises injecting into the tumor or infectious lesion.

12. The method of claim 1, wherein said administering step comprises injecting the subject within the same organ as the tumor or infectious lesion.

13. A method of inhibiting or treating metastasis of a tumor in a subject, comprising:

administer into or near a site of a tumor in a subject an effective amount of an antigen presenting cell and an immunostimulatory cytokine or a nucleic acid encoding an immunostimulatory cytokine.

14. The method of claim 13, wherein the antigen presenting cell is a dendritic cell.

15. The method of claim 14, wherein the dendritic cell is selected from the group consisting of a CD34+-derived dendritic cell, a bone marrow-derived dendritic cell, a monocyte-derived dendritic cell, a splenocyte derived dendritic cell, a skin-derived dendritic cell, a follicular dendritic cell, and a germinal center dendritic cell.

16. The method of claim 13, wherein the dendritic cell is a CD34+-derived dendritic cell cultured in the presence of at least one factor selected from the group consisting of granulocyte colony stimulating factor, granulocyte macrophage colony stimulatory factor, tumor necrosis factor alpha, interleukin 4, the Flt-3 ligand, and the kit ligand.

17. The method of claim 13, wherein the antigen presenting cell is selected from a group consisting of a Langherhans' cell, an interdigitating cell, a B cell, and a macrophage.

18. The method of claim 13, wherein the immunostimulatory cytokine is selected from the group consisting of interleukin-1α, interleukin-1β, interleukin-2, interleukin-3, interleukin-4, interleukin-6, interleukin-8, interleukin-9, interleukin-10, interleukin-12, interleukin-18, interleukin-19, interleukin-20, interleukin-23, interleukin-27, interleukin-1f3, interleukin-1f5, interleukin-1f6, interleukin-1f7, interleukin-1f8, interleukin-1f9, interleukin-1f10, interferon-α, interferon-β, interferon-γ, tumor necrosis factor α, transforming growth factor-β, granulocyte colony stimulating factor, macrophage colony stimulating factor, granulocyte-macrophage colony stimulating factor, the Flt-3 ligand, and the kit ligand.

19. The method of claim 13, wherein the expression vector is a viral vector.

20. The method of claim 13, wherein the expression vector is selected from the group consisting of an adenoviral vector, an adeno-associated viral vector, a retroviral vector, a lentiviral vector, a herpes viral vector, and a vaccinia viral vector.

21. The method of claim 13, wherein the subject has a tumor selected from the group consisting of melanoma, hepatoma, adenocarcinoma, colorectal cancer, basal cell cancer, oral cancer, nasopharyngeal cancer, laryngeal cancer, bladder cancer, head and neck cancer, renal cell cancer, pancreatic cancer, pulmonary cancer, cervical cancer, ovarian cancer, esophageal cancer, gastric cancer, prostate cancer, testicular cancer, and breast cancer.

22. The method of claim 13, wherein the size of the tumor or infectious lesion is decreased.

23. The method of claim 13, wherein the size of the metastasis is decreased.

24. The method of claim 13, wherein the number of the metastases is decreased.

25. The method of claim 13, wherein said administering step comprises injecting into the tumor or infectious lesion.

26. The method of claim 13, wherein said administering step comprises injecting the subject within the same organ as the tumor or infectious lesion.

27. A therapeutic composition comprising an antigen presenting cell and an immunostimulatory cytokine or a nucleic acid encoding an immunostimulatory cytokine.